

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:


1-44. (Cancelled).

45. (Currently Amended) A composition, comprising:

a salt of a rare earth metal;

a salt of an alkaline earth metal; and

a carboxylate salt of copper,

 wherein the composition is in the form of a solution capable of being deposited onto a biaxially textured surface or a single crystal surface and processed in less than about five hours to form a barium fluoride-containing coating that is a precursor for a superconductor film, the superconductor film having a thickness of at least about 0.5 micrometer and a critical current density of at least about 1×10^6 Amperes per square centimeter, and the superconductor film comprising the rare earth metal, the alkaline earth metal and copper.

46. (Original) The composition of claim 45, wherein the alkaline earth metal salt comprises barium trifluoroacetate.

47. (Original) The composition of claim 46, wherein the rare earth metal salt comprises a salt selected from the group consisting of halogenated yttrium acetates and nonhalogenated yttrium acetates.

48. (Original) The composition of claim 45, further comprising a Lewis base.

49. (Original) The composition of claim 48, wherein the alkaline earth metal salt comprises barium trifluoroacetate.

50. (Original) The composition of claim 49, wherein the rare earth metal salt comprises a salt selected from the group consisting of halogenated yttrium acetates and nonhalogenated yttrium acetates.

51-58. (Cancelled).

59. (Currently Amended) A composition, comprising:

a Lewis base;

a salt of a rare earth metal;

a salt of an alkaline earth metal; and

a salt of a transition metal,

wherein the composition is in the form of a solution capable of being deposited onto a biaxially textured surface or a single crystal surface and processed in less than about five hours to form a barium fluoride-containing coating that is a precursor for a superconductor film, the superconductor film having a thickness of at least about 0.5 micrometer and a critical current density of at least about 1×10^6 Amperes per square centimeter, and the superconductor film comprising the rare earth metal, the alkaline earth metal and copper.

60. (Original) The composition of claim 59, wherein the Lewis base comprises a nitrogen-containing compound.

61. (Original) The composition of claim 60, wherein the nitrogen-containing compound is selected from the group consisting of ammonia and amines.

62. (Original) The composition of claim 60, wherein the nitrogen-containing compound comprises an amine having a formula selected from the group consisting of CH_3CN , $\text{C}_5\text{H}_5\text{N}$ and

$R_1R_2R_3N$, wherein each of R_1 , R_2 and R_3 are independently selected from the group consisting of H, a straight chained alkyl group, a branched alkyl group, an aliphatic alkyl group, a non-aliphatic alkyl group and a substituted alkyl group.

63. (Cancelled).

64. (Original) The composition of claim 59, wherein the transition metal salt comprises a carboxylate salt.

ay 65. (Original) The composition of claim 59, wherein the transition metal salt comprises $Cu(O_2CC_2H_5)_2$.

66-84. (Cancelled)

85. (Original) The composition of claim 45, wherein the carboxylate salt of copper comprises a propionate salt of copper.

86. (Cancelled).

87. (Original) The composition of claim 59, wherein the salt of the transition metal comprises a carboxylate salt of the transition metal.

88. (Cancelled).

ab 89. (New) The composition of claim 59, wherein the transition metal salt has a formula selected from the group consisting of $M''(CXX'X''-CO(CH)_aCO-CX'''X''''X''''')(CX''''X''''''X''''''-CO(CH)_bCO-CX''''''X''''''X''''''')$, $M''(O_2C-(CH_2)_n-CXX'X'')(O_2C-(CH_2)_m-CX'''X''''X''''')$ and $M''(OR)_2$, wherein M'' is the transition metal, a is an integer having a value of at least one and at most five, b is an integer having a value of at least

one and at most five, n is an integer having a value of at least one and at most ten, m is an integer having a value of at least one and at most ten, R is a halogenated or nonhalogenated carbon containing group, and each of X, X', X'', X''', X'''', X''''', X'''''', X''''''', X'''''''', X''''''''', X'''''''''' is H, F, Cl, Br or I, with the proviso that the transition metal salt does not have the formula M'''(CF₃CO₂)₂.

90. (New) The composition of claim 45, wherein defects contained within the fluorine-containing coating comprise less than about 20 percent of any volume element of the fluorine-containing coating defined by a projection of one square centimeter of a surface of the fluorine-containing coating.

91. (New) The composition of claim 45, wherein defects contained within the fluorine-containing coating comprise less than about 10 percent of any volume element of the fluorine-containing coating defined by a projection of one square centimeter of a surface of the fluorine-containing coating.

92. (New) The composition of claim 45, wherein defects contained within the fluorine-containing coating comprise less than about five percent of any volume element of the fluorine-containing coating defined by a projection of one square centimeter of a surface of the fluorine-containing coating.

93. (New) The composition of claim 59, wherein defects contained within the fluorine-containing coating comprise less than about 20 percent of any volume element of the fluorine-containing coating defined by a projection of one square centimeter of a surface of the fluorine-containing coating.

94. (New) The composition of claim 59, wherein defects contained within the fluorine-containing coating comprise less than about 10 percent of any volume element of the fluorine-

containing coating defined by a projection of one square centimeter of a surface of the fluorine-containing coating.

OK 95. (New) The composition of claim 59, wherein defects contained within the fluorine-containing coating comprise less than about five percent of any volume element of the fluorine-containing coating defined by a projection of one square centimeter of a surface of the fluorine-containing coating.
